



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

NOV 21 2000

**MEMORANDUM**

**SUBJECT:** Distribution of OSWER Soil Screening Guidance for Radionuclides: User's Guide and Technical Background Document Final Guidance

**FROM:** Elaine F. Davies, Acting Director *Elaine F. Davies*  
Office of Emergency and Remedial Response (OERR)  
Office of Solid Waste and Emergency Response

Stephen D. Page, Director *Stephen D. Page*  
Office of Radiation and Indoor Air (ORIA)  
Office of Air and Radiation

**TO:** Addressees

**PURPOSE**

The purpose of this memorandum is to transmit to you two final guidance documents entitled: "Soil Screening Guidance for Radionuclides: User's Guide" (OSWER No. 9355.4-16A, October 2000), and "Soil Screening Guidance for Radionuclides: Technical Background Document" (OSWER 9355.4-16, October 2000). These guidance documents provide information on soil screening for radionuclides when setting remediation goals at CERCLA sites with radioactive contamination.<sup>1</sup>

**BACKGROUND**

The U.S. Environmental Protection Agency (EPA) issued guidance entitled "Establishment of Cleanup Levels for CERCLA Sites with Radioactive Contamination" (OSWER No. 9200.4-18, August 22, 1997). This 1997 guidance provided clarification for establishing

---

<sup>1</sup>The attached document provides guidance on soil screening issues involved at CERCLA sites and is consistent with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). It does not alter the NCP expectations regarding treatment of principal threat waste and the use of containment and institutional controls for low level threat waste. Consistent with CERCLA and the NCP, response actions must attain or waive Applicable or relevant and appropriate requirements (ARARs). CERCLA response actions for contaminated ground water at radiation sites must attain (or waive as appropriate) the Maximum Contaminant Levels (MCLs) or non-zero Maximum Contaminant Level Goals (MCLGs) established under the Safe Drinking Water Act, where the MCLs or MCLGs are relevant and appropriate for the site.



protective cleanup levels for radioactive contamination at CERCLA sites. The guidance reiterated that cleanups of radionuclides are governed by the risk range for all carcinogens established in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) when Applicable, or Relevant and Appropriate Requirements (ARARs) are not available or are not sufficiently protective. Cleanup should generally achieve a level of risk within the  $10^{-4}$  to  $10^{-6}$  carcinogenic risk range based on the reasonable maximum exposure for an individual. In calculating cleanup levels, one should include exposures from all potential pathways, and through all media (e.g., soil, ground water, surface water, sediment, air, structures, etc.) The guidance also provides a listing of radiation standards that are likely to be used as ARARs to establish cleanup levels or to conduct remedial actions.

These Soil Screening for Radionuclides guidance documents are part of a continuing effort between the Office of Emergency and Remedial Response (OERR) and the Office of Radiation and Indoor Air (ORIA) to provide updated guidance for addressing radioactively contaminated sites consistent with our guidance for addressing chemically contaminated sites, except to account for the technical differences between radionuclides and chemicals. This effort is intended to facilitate compliance with the NCP at radioactively contaminated sites while incorporating the improvements to the Superfund program that have been implemented through Administrative Reforms.

Today's Soil Screening for Radionuclides guidance documents are similar to guidance documents issued by EPA entitled "Soil Screening Guidance: User's Guide" (OSWER No. 9355.4-23, April 1996) and "Soil Screening Guidance: Technical Background Document" (OSWER No. 9355.4-17A, May 1996). These 1996 guidance documents contain information regarding soil screening of chemicals found at Superfund sites across the nation. Today's guidance documents are intended to be consistent with the 1996 guidance documents except where it was necessary to be different based on a technical difference posed by radionuclides.

In addition, an electronic version of the risk assessment and unsaturated zone equations that appear in the "Soil Screening Guidance for Radionuclides: User's Guide" has been developed. These electronic versions may be accessed on the Internet at [http://risk.lsd.ornl.gov/rad\\_start.html](http://risk.lsd.ornl.gov/rad_start.html).

## **IMPLEMENTATION**

For questions regarding radiation site policy and guidance for CERCLA cleanup actions, readers are referred to the RCRA/Superfund Hotline at 1-800-424-9346 or the Superfund Radiation Webpage at <http://www.epa.gov/superfund/resources/radiation/index.htm>. The subject matter specialists for these guidance documents are Phil Newkirk and Ron Wilhelm of ORIA and Stuart Walker of OERR.

## **Attachments**

### **Addressees:**

**National Superfund Policy Managers  
Superfund Branch Chiefs (Regions I-X)  
Superfund Branch Chiefs, Office of Regional Counsel (Regions I-X)  
Radiation Program Managers (Regions I, IV, V, VI, VII, X)  
Radiation Branch Chief (Region II)  
Residential Domain Section Chief (Region III)  
Radiation and Indoor Air Program Branch Chief (Region VIII)  
Radiation and Indoor Office Director (Region IX)  
Federal Facilities Leadership Council  
OERR Center Directors and Senior Process Managers**

### **cc:**

**Jim Woolford, FFRRO  
Elizabeth Cotsworth, OSW  
Craig Hooks, FFEO  
Barry Breen, OSRE  
Joanna Gibson, HOSC/OERR  
Earl Salo, OGC  
Jeff Josephson, Region II**